



information

Mobile Munitions Assessment System

The Mobile Munitions Assessment System (MMAS) is a transportable truck and trailer combination developed by the Product Manager for Non-Stockpile Chemical Materiel (PM NSCM) that provides DoD the capability to analyze and provide on-site information about the contents of unidentifiable munitions without opening them. The MMAS system greatly reduces risk to the public and emergency response personnel. It does so by rapidly obtaining detailed information about discovered chemical weapons and distributing that information to the appropriate authorities and responder personnel.

Prior to a Congressional ban, the U.S. Army developed, tested, and produced chemical-filled munitions, as well as conventional munitions, at sites around the country. Occasionally, munitions did not explode during testing and became embedded in the ground. Additionally, disposal methods during World Wars I and II included burying munitions on military sites, which was an acceptable practice at the time. Today, these unexploded or buried munitions—including bombs, artillery shells, and mortar rounds—may be found on test ranges and at conventional munitions burial sites. When recovered or discovered, the contents of the chemical munitions may not be easily identifiable and also may be unstable, thus presenting a potential safety hazard to the public and any responder personnel. The MMAS rapidly assesses and distributes all critical information with minimal disturbance of the munition, thereby significantly reducing the risk to responder personnel and the public.

The MMAS system has two main functions: identification and communication. The MMAS is capable of assessing recovered munitions on site without moving the materiel, and provides highly

accurate and safe air monitoring at the site. The system can determine the contents and stability of either conventional or chemical-filled munitions.

The MMAS conducts this assessment without opening or disturbing the recovered munition. Munitions are analyzed by the Portable Isotopic Neutron Spectrometer (PINS) and on-board computers. The PINS uses gamma rays to identify the elements within the munition, and the computers allow for a comparison and in-depth analysis of the information gathered from the site. Portable x-ray photography devices on board may also be used to examine any internal explosive qualities of a munition with little or no disturbance.

The MMAS's trailer also serves as a command center, an equipment storage area, and a fully functional darkroom for x-ray film processing. A major component of the MMAS is the weather monitoring system made up of two weather stations or "masts." These weather masts are raised to constantly monitor changing conditions from within the command trailer. If a leaking munition is present, the weather equipment helps determine the safest possible geographic zone away from the site. Additionally, cameras are used to monitor all activity around the site. Powered by a portable gas generator, the MMAS can be on-site for months with a constant power supply. Redundant computer systems provide added data protection in the event of equipment failure. A back-up battery system ensures that no data are lost.

The system can be transported by a C-141 cargo aircraft, if necessary, and then driven to a site. The entire system is equipped to provide access to sites with varying types of terrain. Once at a site, the full MMAS system can be set up in as little as 25 minutes.

*For more information,
contact the Public
Outreach and
Information Office
of the Program
Manager for Chemical
Demilitarization
at 1. 800.488.0648*



The MMAS is equipped with x-ray equipment that displays the munition's exposure condition, and also with the PINS to help determine the munition fill. All communications, photographs, video, x-ray pictures, and computer data can be transmitted immediately. A satellite link, cellular phone, and short wave radio ensure that the responsible Army officials, state regulators, and local emergency responders have access to this information. Based on the assessment information, the responsible officials can take the necessary actions to handle, package, store, and if necessary transport the recovered munition. Upon completion of the assessment, the MMAS is equipped to

decontaminate the personnel's protective gear and suits if they had come into contact with chemical agent.

Currently, a fully functional MMAS has been fabricated. This initial system has been provided to the Technical Escort Unit—a rapid response unit of the U.S. Army Chemical and Biological Defense Command—and has been used to assess munitions at Aberdeen Proving Ground, Maryland. Testing of the prototype MMAS was conducted at the Idaho National Engineering Laboratory and at Dugway Proving Ground, Utah.